

Fig. 1

1/ MULTI-SIGNAL ANALYZER
11/ AD CONVERTER
13/ MEMORY
15/ TIME WINDOW EXTRACTION UNIT
17/ MANIPULATION/INPUT UNIT
19/ DELAY TIME CALCULATION UNIT
39/ TIME AXIS ADJUSTMENT UNIT
41/ DATA ANALYZER
43/ DISPLAY UNIT
INPUT SIGNAL

Fig. 2

19a/ DELAY TIME CALCULATION UNIT
21/ DELAY TIME GENERATION UNIT
23/ CORRELATION CALCULATION UNIT
25/ MULTIPLICATION UNIT
27/ INTEGRATION UNIT
29/ DELAY TIME CONTROLLER
INPUT SIGNAL
DELAY TIME

Fig. 3

19b/ DELAY TIME CALCULATION UNIT
31a/ FFT CALCULATION UNIT
31b/ FFT CALCULATION UNIT
33/ IMPULSE RESPONSE CALCULATION UNIT
35/ CROSS SPECTRUM CALCULATION UNIT
37/ AVERAGE CALCULATION UNIT
INPUT SIGNAL

DELAY TIME

Fig. 4

1/ MULTI-SIGNAL ANALYZER

51/ ENGINE

53/ FUEL TANK

55/ FUEL FLOW METER

57/ CRANK SHAFT

59/ TORQUE SENSOR

61/ TACHOMETER

63/ MUFFLER

65/ AMOUNT OF EXHAUST NO_x SENSOR

Fig. 5

FUEL FLOW RATE

GENERATED TORQUE

ENGINE SPEED

AMOUNT OF NO_x

Fig. 6

GENERATED TORQUE

FUEL FLOW RATE

Fig. 7

ENGINE SPEED

FUEL FLOW RATE

Fig. 8

AMOUNT OF NO_x

FUEL FLOW RATE

Fig. 9

AMOUNT OF NO_x
GENERATED TORQUE

Fig. 11

FUEL FLOW RATE
GENERATED TORQUE
ENGINE SPEED
AMOUNT OF NO_x

Fig. 12

GENERATED TORQUE
FUEL FLOW RATE

Fig. 13

ENGINE SPEED
FUEL FLOW RATE

Fig. 14

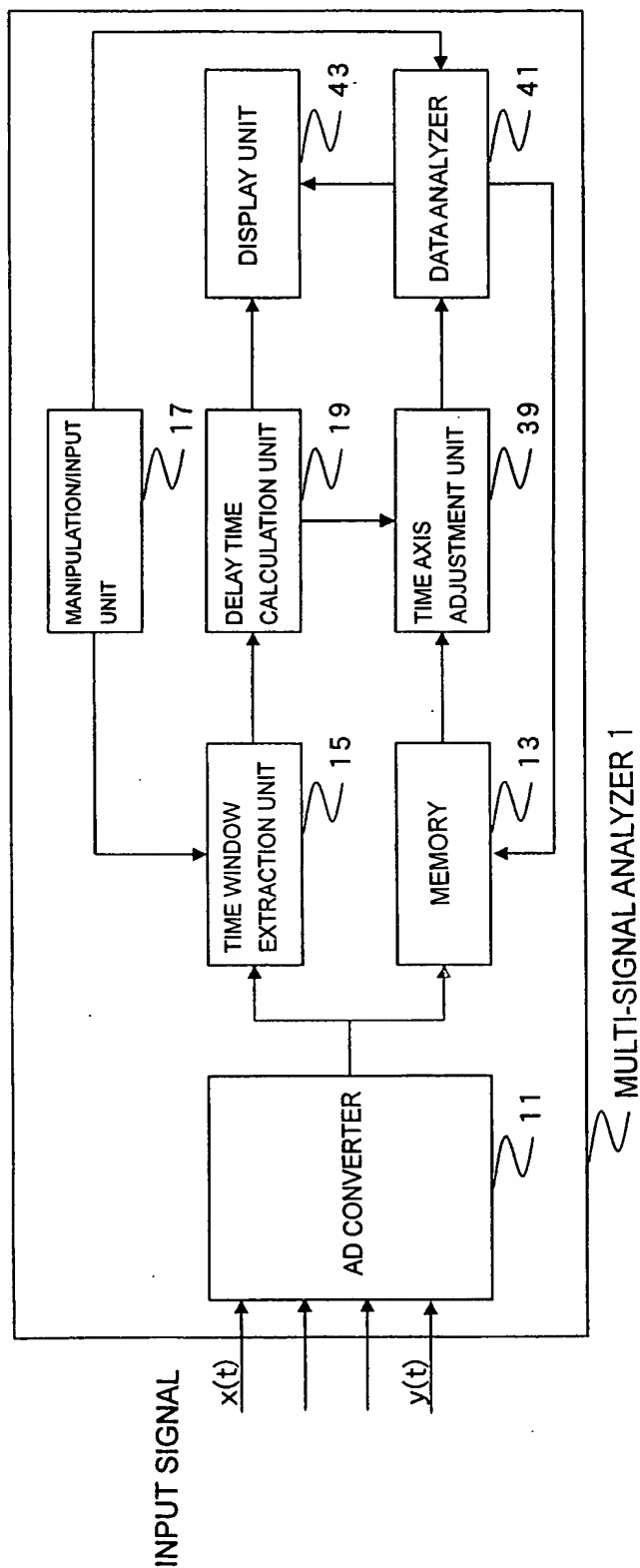
AMOUNT OF NO_x
FUEL FLOW RATE

Fig. 15

AMOUNT OF NO_x
GENERATED TORQUE

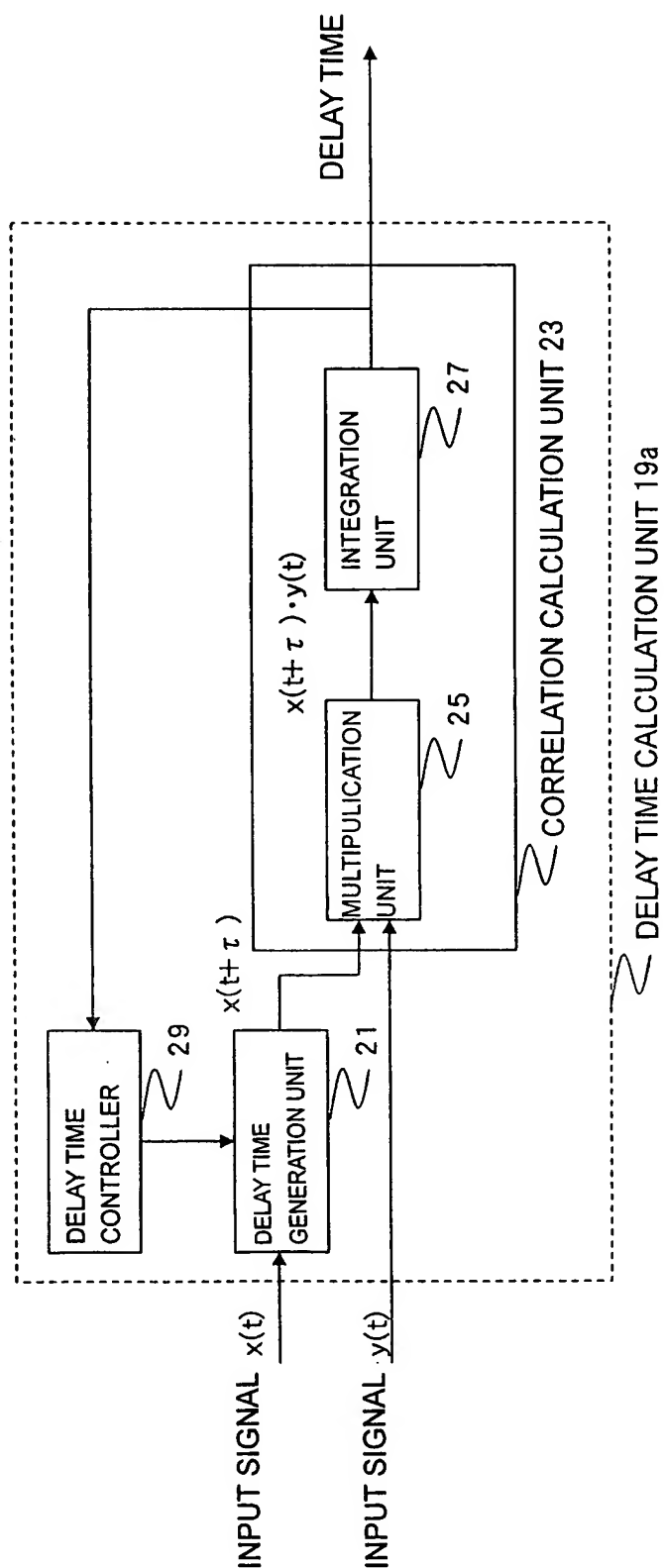
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[FIG. 1]



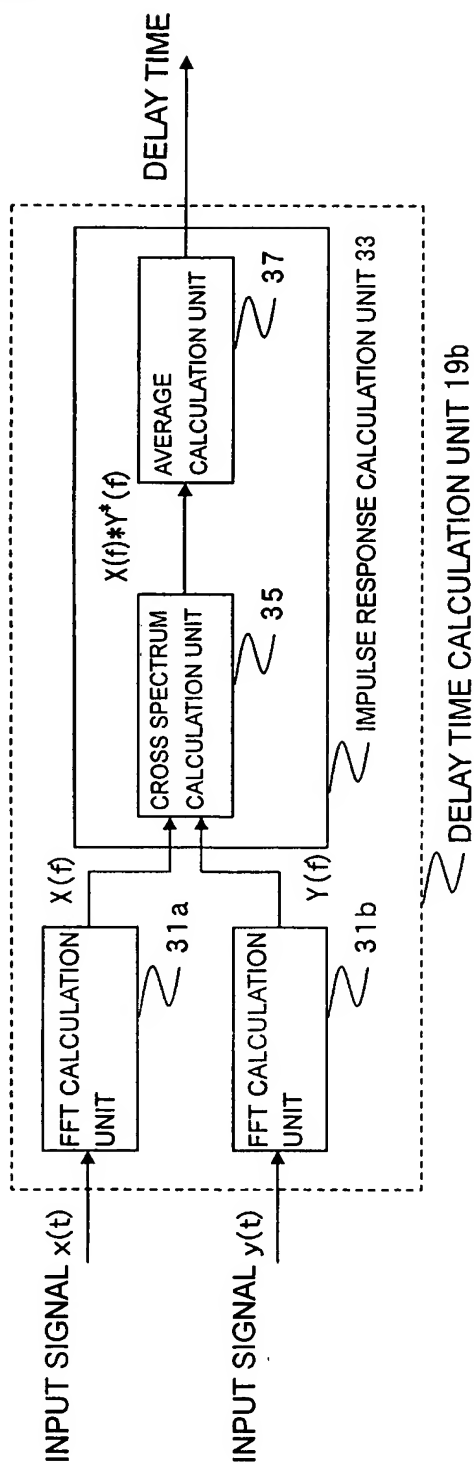
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[FIG. 2]



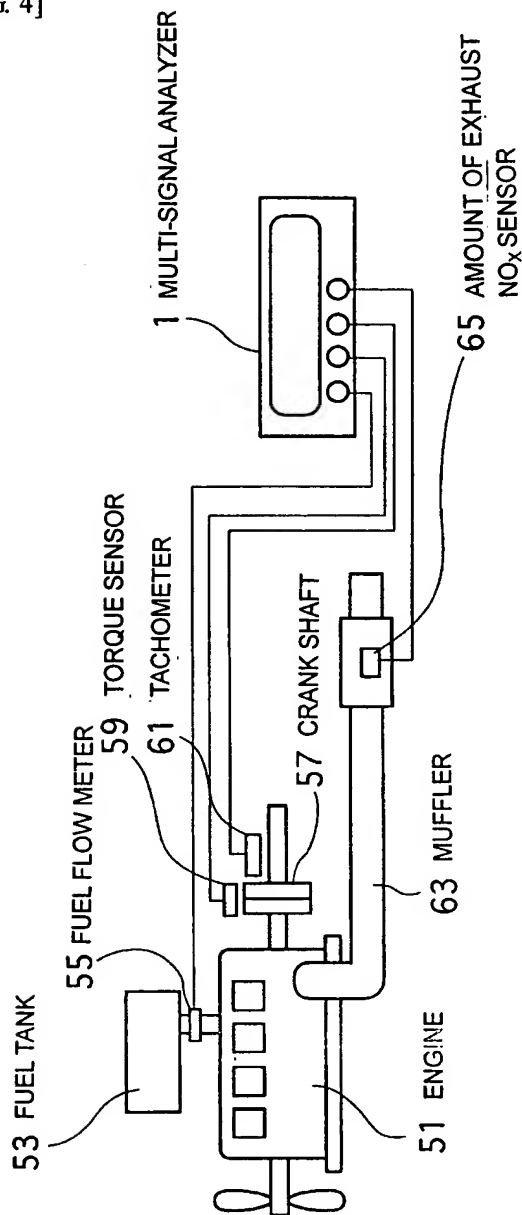
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[FIG. 3]



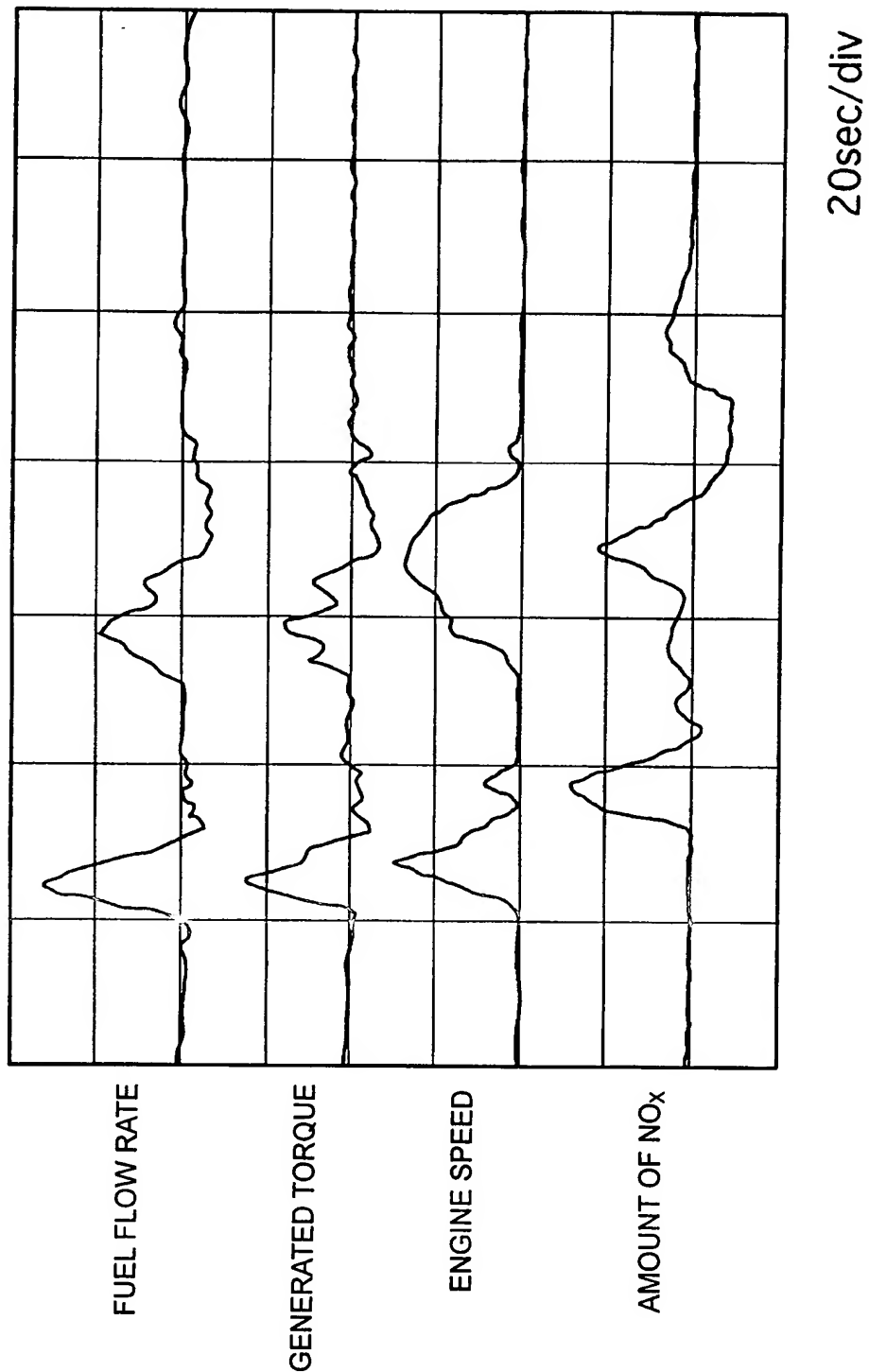
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[FIG. 4]



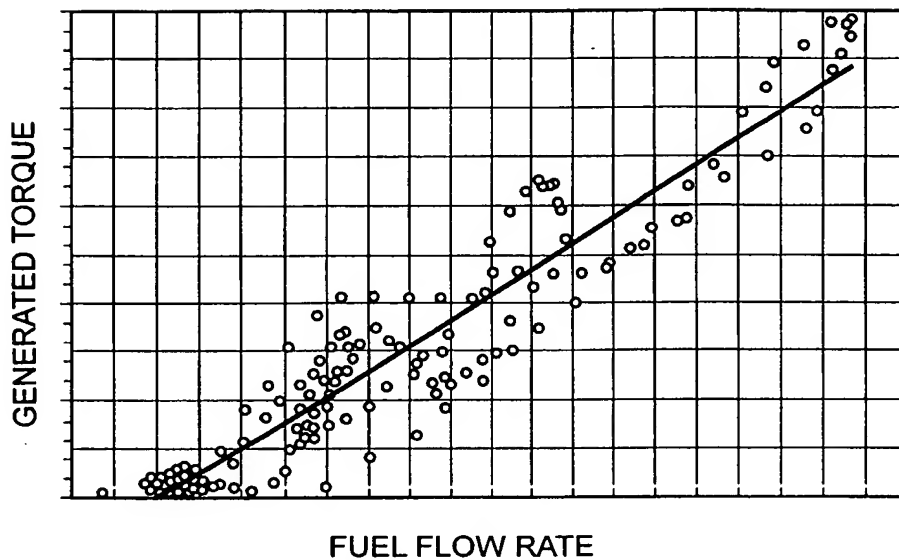
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[FIG. 5]



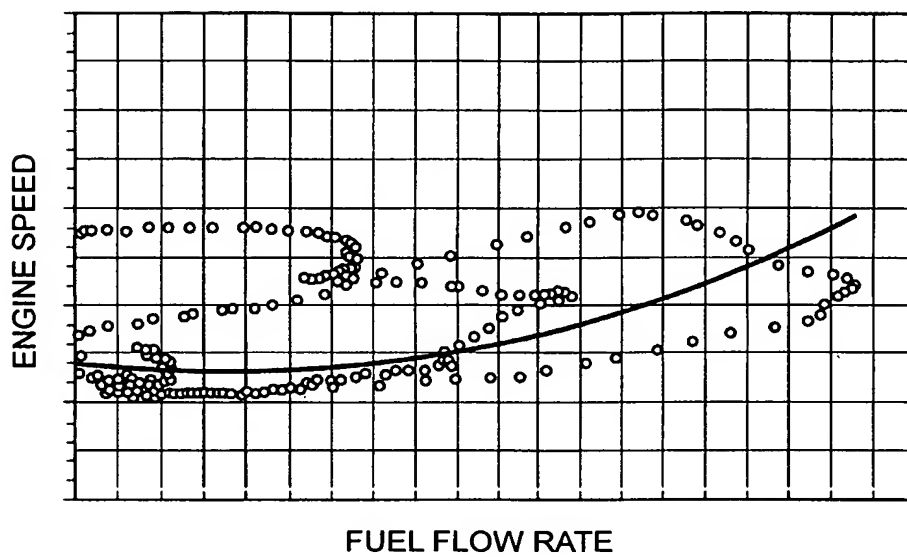
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[FIG. 6]



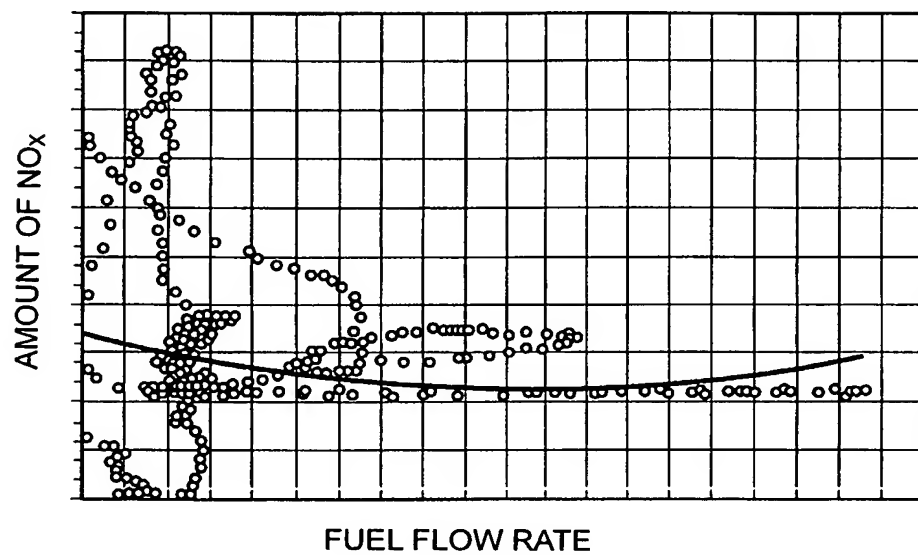
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[FIG. 7]



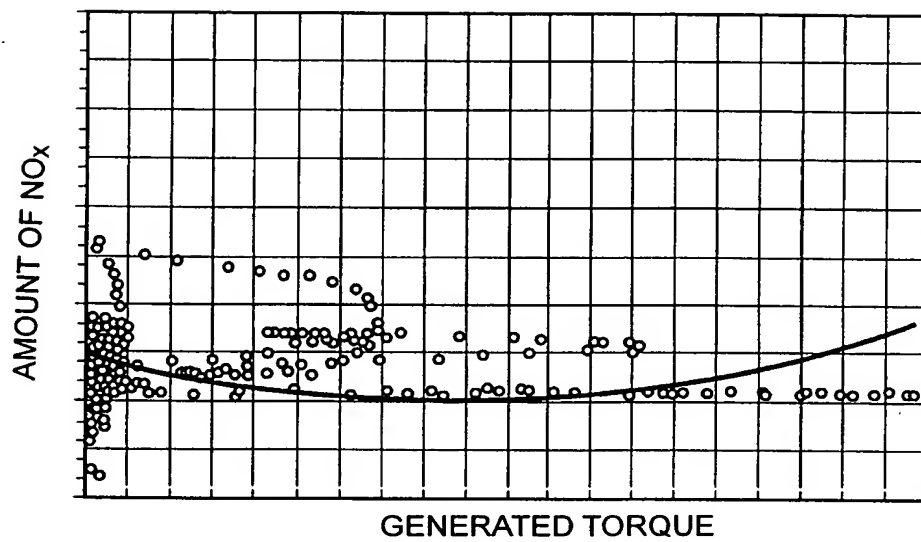
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[FIG. 8]



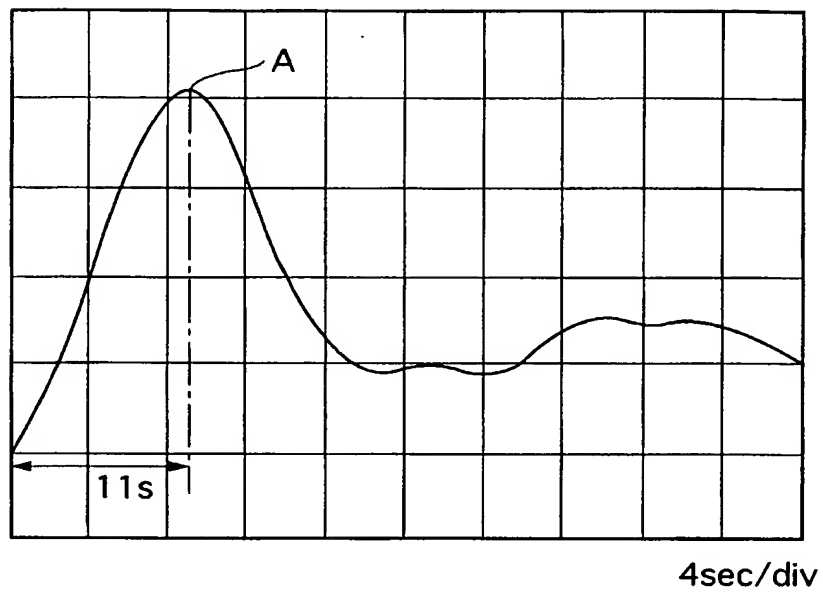
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[FIG. 9]



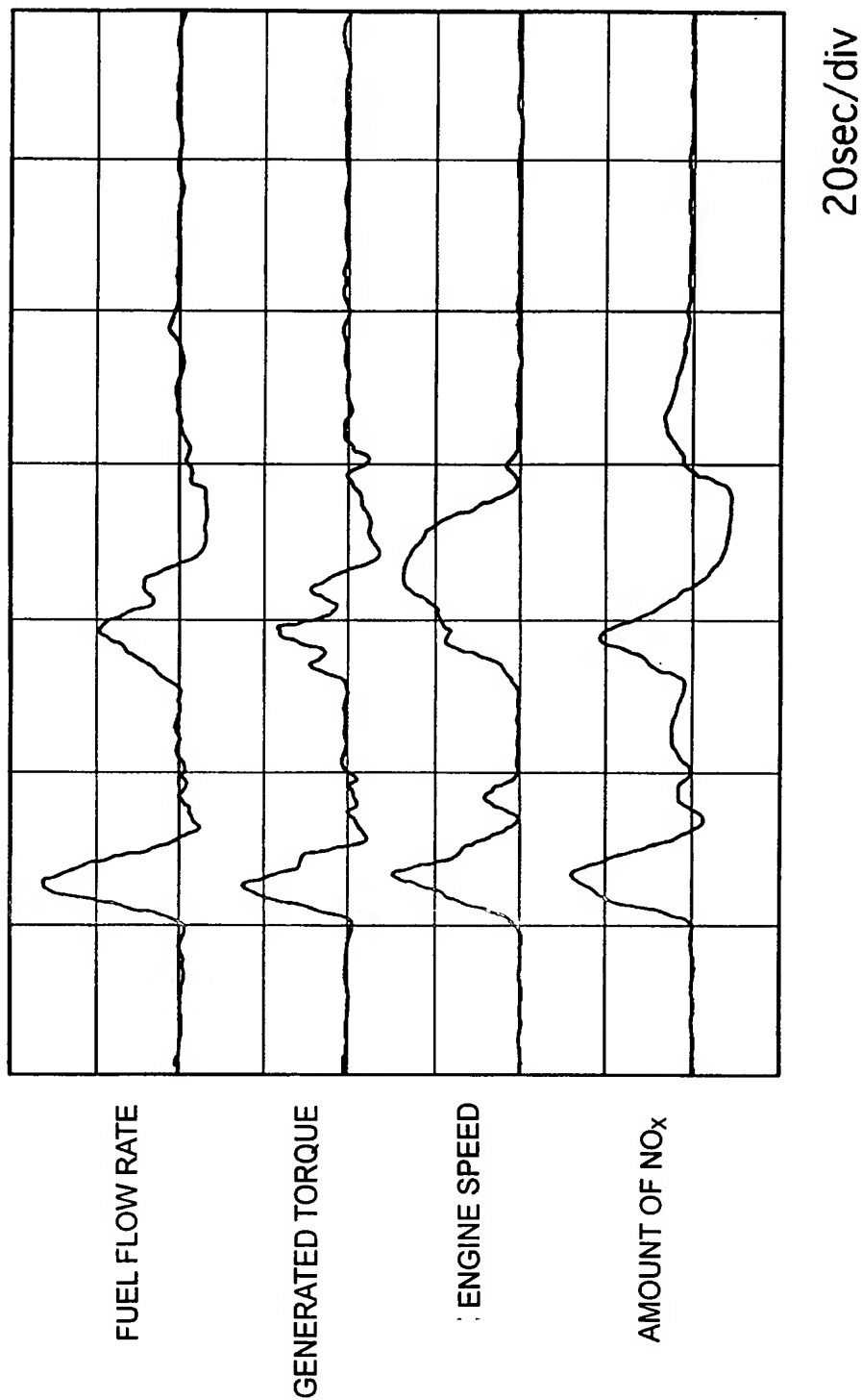
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[FIG. 10]



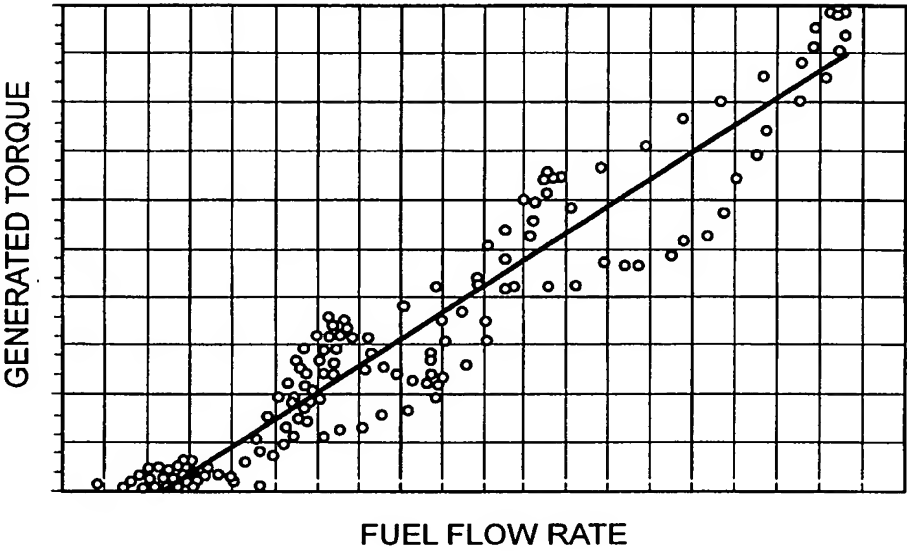
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[FIG. 11]



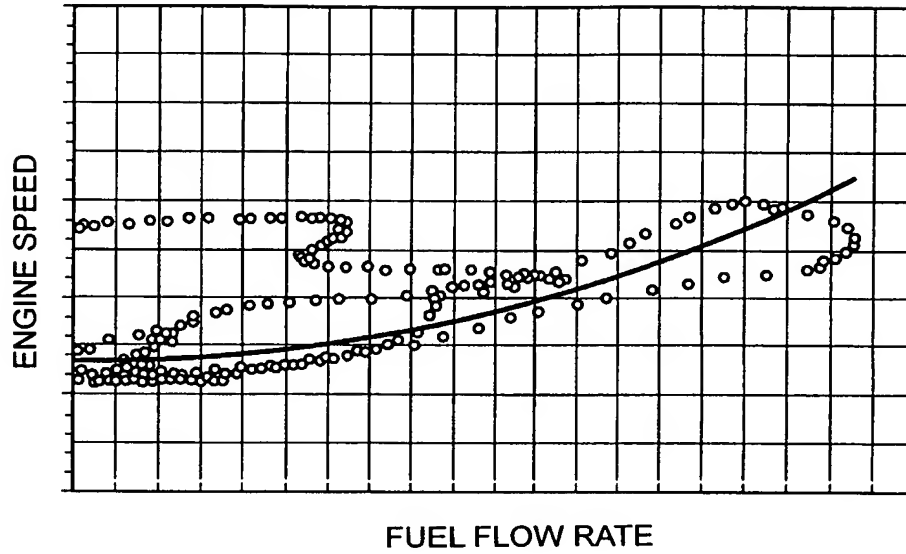
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[FIG. 12]



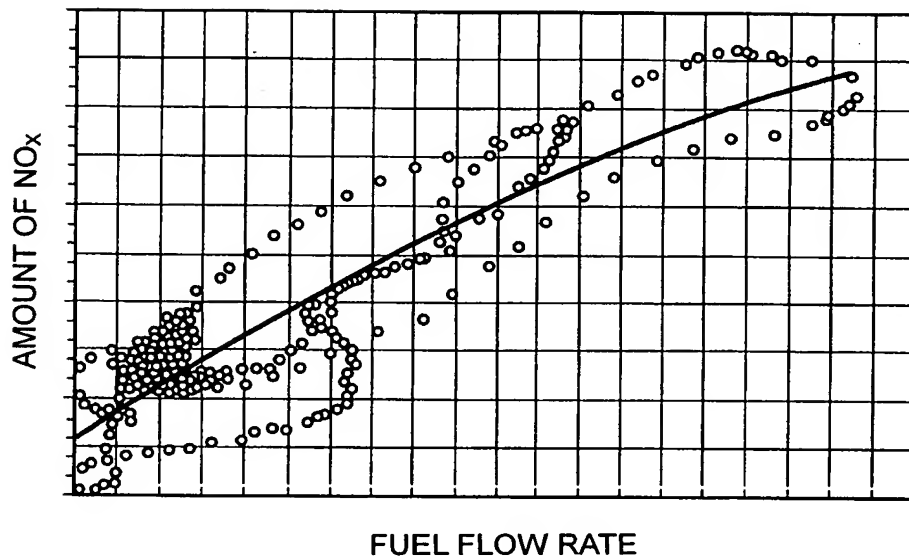
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[FIG. 13]



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[FIG. 14]



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[FIG. 15]

